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Date: April 28, 2006

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Please find attached courtesy copy of the Declaration Pursuant to 37 CFR 1.132 and the Curriculum Vitae.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	: Defu Zeng et al.	Confirmation No. 3043	
Serial No.	: 09/844,544	Art Unit:	1644
Filed	: April 27, 2001	Examiner:	Marianne DiBrino

For : METHODS FOR INHIBITION OF POLYCLONAL B CELL ACTIVATION AND IMMUNOGLOBULIN CLASS SWITCHING TO PATHOGENIC AUTOANTIBODIES BY BLOCKING CD1-MEDIATED INTERACTIONS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION PURSUANT TO 37 CFR §1.132

Sir/Madam:

I, Dr. Samuel Strober, M.D., do hereby declare as follows:

1. I am a Professor of Medicine in the Department of Medicine, Division of Immunology, Stanford University School of Medicine, Stanford, CA. I received my M.D. from Harvard Medical School, Boston, Magna Cum Laude in 1966. I have over thirty years of experience in immunology. My Curriculum Vitae is attached as Appendix A.

2. I am familiar with the prosecution history of the above-identified patent application and the pending obviousness issues.

3. I am submitting this declaration to show that the use of anti-CD1 antibody to treat lupus is not obvious over the prior art cited by the Examiner. The references used by the Examiner include Zeng et al., Subsets of transgenic T cells that recognize CD1 induce or prevent murine lupus: Role of cytokines. J. Exp. Med., 187:525-536, 1998 and Amano et al., CD1 expression defines subsets of follicular and marginal zone B cells in the spleen: β_2m-dependent and independent forms. J. Immunol., 161:1710-1717, 1998. The Examiner indicates that the results of the Zeng et al. publication in combination with the Amano et al. publication makes obvious the invention of the use

of anti-CD1 mAb to treat lupus. Both these publications are the result of experiments conducted in my laboratory at Stanford University.

4. It is well known in the art that a subset of T cells, CD4 helper T cells, interact with MHC Class II molecules on B cells and thereby augment the production of IgM and IgG antibodies. See Swain S.L., Immunol. Rev., 74:129, 1983 and Swain et al., J. Immunol. 132:1118-23, 1984. CD4 T cells that are not CD1 reactive T cells account for 95-96% of all CD4 T cells in NZB/W mice and other well studied mouse strains. See Zeng et al., J. Clin. Inv. 112:1211-1222, 2003. CD1 reactive T cells, which interact with the MHC-related molecule, CD1, on B-cells account for about 4-5% of CD4 T cells in these mice strains, whereas in the transgenic mice, i.e., the mice used in the experiments of the Zeng et al J. Exp. Med., 187:525-536, 1998 publication, 100% of CD4 T cells are CD1 reactive because of the introduced transgene. See Zeng et al., J. Clin. Inv. 112:1211-1222, 2003 and Zeng et al., J. Exp. Med., 187:525-536, 1998.

5. It is widely believed that CD4 helper T cells are responsible for augmenting the production of pathogenic autoantibodies in lupus. In fact, the landmark paper of Wofsy and Seaman teaches that CD4 helper T cells reactive with MHC Class II molecules, rather than the CD1 reactive T cells, interact with B cells to facilitate the production of pathogenic autoantibodies in lupus prone NZB/W mice. See Wofsy and Seaman, Successful treatment of autoimmunity in NZB/NZW F1 mice with monoclonal antibody to L3T4, J. Exp. Med., 161(2):378-91, 1985. This teaching is based on the amelioration of lupus by administration of anti-CD4 mAb that depletes CD4 helper T cells. This report is widely interpreted in the lupus field as showing that the 95-96% of CD4 T cells that interact with MHC class II and that do not interact with CD1 are required for the production of pathogenic autoantibodies; and that the 3 to 4% of $CD4^+$ T cells that interact with CD1 are expected to make a minor contribution to autoantibody production. Thus, there was no reason to believe by those versed in the field that the administration of anti-CD1 mAb, that blocked the contribution of a minority of CD1 reactive T cells, would affect autoantibody production and ameliorate lupus. This is because the vast majority of CD4 T cells (non-CD1 reactive T cells) would still be capable of interacting with B cells via MHC Class II molecules to mediate the disease. Overall, as shown in the present patent application, the unexpected result of the anti-CD1 treatment of NZB/W mice is that

the small minority of CD1 reactive T cells in the NZB/W mice are responsible for helping B cells to produce the majority of the pathogenic autoantibody production.

6. In conclusion, the Amano et al. and Zeng et al. publications do not teach about the contribution of CD1 reactive versus MHC Class II reactive CD4 T cells to lupus, because in the transgenic mouse studies described by the cited art, an unnatural 100% of the CD4 T cells are CD1 reactive, and none are MHC Class II reactive T cells.

7. Zeng et al. and Amano et al. show that there are two subsets of transgenic T cells that react with CD1, one that is Th1 biased and that induces lupus, and another that is Th2 biased and that protects against lupus. These reports do not teach about whether CD1 reactive T cells in non-transgenic mice are predominantly biased toward Th1 or Th2 cytokine patterns, and thus whether the CD1 reactive cells would induce or protect against lupus. In other autoimmune diseases, such as EAE and the autoimmune diabetes of NOD mice, activation of CD1 reactive T cells with the glycolipid, alpha galactosyl ceramide, induces a Th2 pattern and ameliorates disease. See Sharif et al., Nature Medicine, 7:1057-62, 2001 and Jahng et al., J. Exp. Med., 194:1789-99, 2001. In the NOD mice, Lehuen and her colleagues showed that deficiency of CD1 reactive T cells induced by targeted inactivation of the CD1 gene worsens disease, and an increase in the number of CD1 reactive T cells by insertion of a Vα14 transgene improves disease. See Lehuen et al., J. Exp. Med. 188:1831-39, 1998. These results teach against the pathogenic role of CD1 reactive T cells in autoimmune disease, and instead teach that they are beneficial.

8. Singh et al reported that deficiency of NK T cells in NZB/W mice by targeted inactivation on the CD1 gene worsens lupus. This teaches against a pathogenic role of NK T cells in lupus in NZB/W mice. See Singh et al., 2001, Arth. Rheum. Suppl., Vol 44, pp 283. Chan and his colleagues reported that lupus prone MRL/lpr mice that are CD1 deficient develop worse lupus skin disease than wild-type MRL/lpr mice. See Chan et al., J. Immunol., 167:2985-2990, 2001. Thus, these publications teach against a pathogenic role of CD1 reactive T cells in the lupus disease of MRL/lpr mice. Yang et al. have shown that CD1d deficiency exacerbates lupus in another model of lupus. See Yang et al., Immunoregulatory role of CD1d in the hydrocarbon oil-induced model of lupus nephritis, J Immunol., 171(4):2142-53, 2003. Yang et al. (2003) have also demonstrated an expansion of NKT cells, i.e., CD1d reactive cells, with α-GalCer and improved dermatitis in a model

used to study the pathogenesis of lupus. See Yang et al., Repeated α-galactosylceramide administration results in expansion of NK T cells and alleviates inflammatory dermatitis in MRL-lpr/lpr mice, J Immunol., 171(8):4439-46, 2003.

9. When the teaching that activation of CD1 reactive T cells ameliorate autoimmune disease such as EAE and diabetes via their Th2 bias and the teaching that deficiency of CD1 reactive T cells in lupus prone NZB/W and MRL/lpr mice worsens lupus are taken into account, a person of skill in the art would not expect that anti-CD1 mAb treatment would ameliorate lupus. They would expect the opposite.

10. Overall, the Zeng at al. and Amano et al. references do not make obvious the use of anti-CD1 antibody for the treatment of lupus.

11. I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that making of willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful statements may jeopardize the validity of the applications or any patent issuing thereon.

Respectfully submitted,

Dated: April 27, 2006

Samuel Strober, M.D.
Professor of Medicine
Department of Medicine
Division of Immunology
Stanford University School of Medicine
Stanford, CA

APPENDIX A
CURRICULUM VITAE

Samuel Strober, M.D.

Military Status: Three years' active duty in United States Public Health Service, Honorable Discharge, June 23, 1970

Education:

1961	A.B. Columbia College, New York City, Liberal Arts
1966	M.D. Harvard Medical School, Boston, Magna Cum Laude

Honors:

1966	Leon Resnick Memorial Research Prize, Harvard Medical School
1966	Alpha Omega Honorary Society
1971-1976	Career Development Award from NIAID
1984	Diane Goldstone Memorial Lecturer, Massey Cancer Center
1986	John Putnam Merrill Memorial Lecturer, Harvard Medical School
1987-1989	Federal Advisory Committee, Transplantation Biology and Immunology Subcommittee, NIH
1989	Ray A. and Joan B. Kroc Visiting Professor, University of Michigan
1993	E. Donnall Thomas Annual Lecture, Fred Hutchinson Cancer Research Center
1996	President, Clinical Immunology Society

Training and Experience:

1962-1963	Research Fellow, part time, Surgical Research Laboratory, Peter Bent Brigham Hospital, Boston, MA, Head: Professor J.E. Murray
1963-1964	Research Fellow, Cellular Immunology Research Unit, Oxford University, Oxford, England, Head: Professor J.L. Gowans
1965-1966	Research Fellow, Surgical Research Laboratory, Peter Bent Brigham Hospital, Boston, MA
1966-1967	Intern, Department of Medicine, Massachusetts General Hospital, Boston, MA, Professor Alexander Leaf, Head, Department of Medicine
1967-1970	Research Associate, Laboratory of Cell Biology, National Cancer Institute, NIH, Bethesda, MD, Head: Dr. L. W. Law
1970-1971	Senior Assistant Resident, Department of Medicine, Stanford University School of Medicine, Stanford, CA
1971-1972	Instructor in Medicine, Department of Medicine, Division of Immunology, Stanford University School of Medicine, Stanford, CA
1972-1978	Assistant Professor of Medicine, Department of Medicine, Division of Immunology, Stanford University School of Medicine, Stanford, CA

1976-1981	Investigator, Howard Hughes Medical Institute, Miami, FL
1978-1982	Associate Professor of Medicine, Department of Medicine, Division of Immunology, Stanford University School of Medicine, Stanford, CA
1978-1997	Chief, Division of Immunology and Rheumatology, Department of Medicine, Stanford University School of Medicine, Stanford, CA
1982-present	Professor of Medicine, Department of Medicine, Division of Immunology, Stanford University School of Medicine, Stanford, CA

Editorial Boards:

1982-1984	Associate Editor, Journal of Immunology
1982-1985	Associate Editor, Transplantation
1984-present	Associate Editor, International Journal of Immunotherapy
1992-present	Associate Editor, Transplantation Immunology
1998-2002	Member, Biology of Blood and Marrow Transplantation

Institutional Boards:

1992-2005	Member, Board of Directors, La Jolla Institute for Immunology
2005-Present	Chairman, Board of Directors, La Jolla Institute for Immunology

Societies:

1989-1997	Councilor, Clinical Immunology Society
1996	President, Clinical Immunology Society
	American Association of Immunologist
	American Society for Clinical Investigation
	American College of Rheumatology
	American Society of Transplantation Physicians
	Western Society for Clinical Investigation
	American Association of Physicians
1986-1989	Councilor, Transplantation Society

Advisory Committee:

1987-1989	NIH Transplantation Biology and Immunology Study Section

BIBLIOGRAPHY

1. **Strober, S.**, and Gowans, J.L. The role of lymphocytes in the sensitization of rats to renal homografts. J. Exp. Med., 122:347-360, 1965.

2. **Strober, S.**, and Murray, J.E. Studies of the enhancing properties of plasma of murine parabionts. Transplantation 5:1371-1379, 1967.

3. **Strober, S.** Initiation of primary antibody responses by both circulating and non-circulating lymphocytes. Nature 219:649-651, 1968.

4. **Strober, S.**, and Mandel, M.A. Differences in the distribution of antigen reactive cells in the lymphoid tissues of the rat and mouse. Proc. Soc. Exp. Biol. and Med., 130:336-338, 1969.

5. **Strober, S.**, and Law, L.W. Further studies on the role of circulating lymphocytes in the initiation of primary antibody responses to different antigens. Proc. Nat. Acad. Sci. USA 62:1023-1030, 1969.

6. **Strober, S.** Initiation of antibody responses by different classes of lymphocytes. I. Types of thoracic duct lymphocytes involved in primary antibody responses of rats. J. Exp. Med., 130:895-906, 1969.

7. **Strober, S.** Initiation of antibody responses by different classes of lymphocytes. II. Differences in the tissue distribution of lymphocytes involved in primary and secondary antibody responses. J. Immunol. 105:730-733, 1970.

8. **Strober, S.** Initiation of antibody responses by different classes of lymphocytes. III. Differences in the proliferative rates of thoracic duct lymphocytes involved in primary and secondary responses. J. Immunol. 105:734-737, 1970.

9. **Strober, S.** Effect of mineral adjuvant on lymphocytes cooperation in the secondary antibody response to a hapten-protein conjugate. Nature 228:1324-1326, 1970.

10. **Strober, S.**, Appella, E., and Law, L.W. Serological and immunogenic activity of soluble mouse transplantation antigens controlled by the H-2 locus. Proc. Nat. Acad. Sci., USA 67:765-772, 1970.

11. **Strober, S.**, and Law, L.W. Initiation of antibody responses by different classes of lymphocytes. IV. Lymphocytes involved in the primary antibody response to a hapten-protein conjugate. Immunology 20:831-838, 1971.

12. **Strober, S.**, Appella, E., and Law, L.W. Characterization of the immunogenic and serological activity of soluble H-2 transplantation antigens in the mouse. Transplant. Proc. 3:246-248, 1971.

13. Law, L.W., Appella, E., Wright, P.W., and **Strober, S.** Immunologic enhancement of allogeneic tumor growth with soluble histocompatibility-2 antigens. Proc. Nat. Acad. Sci., USA 68:3078-3082, 1971.

14. Law., L.W., **Strober, S.**, Appella, E., Wright, P.W., and Fischetti, T. Induction of immunological tolerance to soluble mouse histocompatibility-2 (H-2) antigens. Proc. Nat. Acad. Sci. USA 69:1858, 1971.

15. **Strober, S.** Recirculation of "B" lymphocytes in immunized rats. Nature New Biol. 237:247-249, 1972.

16. **Strober, S.** Initiation of antibody responses by different classes of lymphocytes. V. Fundamental changes in the physiological characteristics of virgin thymus-independent ("B") lymphocytes and "B" memory cells. J. Exp. Med., 136:851-871, 1972.

17. **Strober, S.**, and Dilley, J. Biological characteristics of T and B memory lymphocytes in the rat. J. Exp. Med., 137:1275-1292, 1973.

18. **Strober, S.**, and Dilley, J. Maturation of "B" lymphocytes in the rat. I. Migration pattern, tissue distribution, and turnover rate of unprimed and primed "B" lymphocytes involved in the adoptive anti-dinitrophenyl response. J. Exp. Med., 138:1331-1344, 1973.

19. Bobrove, A.M., **Strober, S.**, Herzenberg, L.A., and DePamphilis, J.D. Identification and quantitation of thymus-derived lymphocytes in human peripheral blood. J. Immunol. 112:520-527, 1974.

20. Law, L.W., Appella, E., **Strober, S.**, Wright, P.W., and Fischetti, T. Soluble transplantation antigens: Further studies of their tolerogenic properties. Transplantation 18:487-495, 1974.

21. Valle, M.J., Bobrove, A.M., **Strober, S.**, and Merigan, T.C. Immune specific production of interferon by human T cells in combined macrophage-lymphocyte cultures in response to Herpes Simplex antigen. J. Immunol. 114:435-441, 1975.

22. **Strober, S.** Maturation of B lymphocytes in the rat. II. Subpopulation of virgin B lymphocytes in the spleen and thoracic duct lymph. J. Immunol. 114:877-885, 1975.

23. Bobrove, A.M., Fuks, Z., **Strober, S.**, and Kaplan, H.S. Quantitation of T and B lymphocytes and cellular immune function in Hodgkin's disease. Cancer 36:169-179, 1975.

24. **Strober, S.** Immune function, cell surface characteristics and maturation of B cell subpopulations. Transplant. Rev. 24:84-112, 1975.

25. **Strober, S.**, and Bobrove, A.M. Assays for T and B cells. In: Laboratory Diagnosis of Immunologic Disorders (Eds.: G.N. Vyas, D.P. Stites, and G. Brecher). Grune and Stratton, New York, pp. 71-86, 1975.

26. **Strober, S.**, Lamson, L., and Zan-Bar, I. Maturation of B lymphocytes in rats. In: Cancer research on differentiation and maturation of normal and neoplastic hematopoietic cells, p. 11, 1976.

27. Khalaf, T.H., **Strober, S.**, Garrelts, G., and Stinson, E.B. Alterations in T and B lymphocytes in heart transplant patients early and late post-operatively. J. Clin. Invest. 58:212-220, 1976.

28. **Strober, S.** Role of the spleen in the maturation of B-lymphocytes. In: Symposium on the Immuno-Aspects of the Spleen (Eds.: J.R. Battisto, and J.W. Streilein), Elsevier/ North-Holland Biomedical Press, Amsterdam, pp. 129-139, 1976.

29. Slavin, S., **Strober, S.**, Fuks, Z., and Kaplan, H.S. Long-term survival of skin allografts in mice treated with fractionated total lymphoid irradiation. Science, 193:1252-1254, 1976.

30. Fuks, Z., **Strober, S.**, Bobrove, A.M., Sasazuki, T., McMichael, A., and Kaplan, H.S. Long-term effects of radiation on T and B lymphocytes in peripheral blood of patients with Hodgkin's disease. J. Clin. Invest. 58:803-814, 1976.

31. **Strober, S.** Maturation of B lymphocytes in rats. III. Two subpopulations of memory B cells in the thoracic duct lymph differ by size, turnover rate and surface immunoglobulin. J. Immunol. 117:1288-1294, 1976.

32. Fuks, Z., **Strober, S.,** King, D.P., and Kaplan, H.S. Reversal of cell surface abnormalities of T lymphocytes in Hodgkin's disease after *in vitro* incubation in fetal sera. J. Immunol. 117:1331-1335, 1976.

33. Fuks, Z,. **Strober, S.,** and Kaplan, H.S. Interaction between serum factors and T lymphocytes in Hodgkin's disease: Use as a diagnostic test. N. Eng. J. Med., 295:1273-1278, 1976.

34. Vitetta, E.S., Cambier, J.C., Kettman, J.R., **Strober, S.,** Yuan, D., Zan-Bar, I., and Uhr, J.W. B cell differentiation and murine IgD. Prog. in Immunol. III, North Holland Publishing Co., Amsterdam, pp. 65-73, 1977.

35. **Strober, S.** Maturation of B lymphocytes. Changes in cell surface markers, physiological characteristics and immune function. Prog. in Immunol. III, North Holland Publishing Co., Amsterdam, p. 183, 1977.

36. Slavin, S., **Strober, S.,** Fuks, Z., and Kaplan, H.S. Use of total lymphoid irradiation in tissue transplantation in mice. Transplant. Proc. 9:1001-1004, 1977.

37. Press, J.L., **Strober, S.,** and Klinman, N.R. Characterization of B cell subpopulations by velocity sedimentation, surface Ia antigens and immune function. Eur. J. Immunol. 7:329-335, 1977.

38. Zan-Bar, I., **Strober, S.,** and Vitetta, E.S. The relationship between surface immunoglobulin isotype and immune function of murine B lymphocytes. I. Surface immunoglobulin isotypes on primed B cells in the spleen. J. Exp. Med., 145:1188-1205, 1977.

39. Zan-Bar, I., **Strober, S.,** and Vitetta, E.S. The relationship between surface immunoglobulin isotype and immune function of murine B lymphocytes. II. Surface immunoglobulin isotopes on unprimed B cells in the spleen. J. Exp. Med., 145:1206-1215, 1977.

40. Slavin, S., **Strober, S.,** Fuks, Z., and Kaplan, H.S. Induction of specific tissue transplantation tolerance using fractionated total lymphoid irradiation in adult mice: Long-term survival of allogeneic bone marrow and skin grafts. J. Exp. Med., 146:34-48, 1977.

41. Hoppe, R., Fuks, Z.Y., **Strober, S.,** and Kaplan, H.S. The long-term effects of radiation on T and B lymphocytes in the peripheral blood after regional irradiation. Cancer 40:2071-2078, 1977.

42. **Strober, S.** T and B cells in immunologic diseases. Am. J. Clin. Path. 68:671-678, 1977.

43. Zan-Bar, I., Murphy, D.B., and **Strober, S.** Cellular basis of tolerance to serum albumin in adult mice. I. Characterization of T suppressor and T helper cells. J. Immunol. 120:497-506, 1978.

44. Slavin, S., and **Strober, S.** Induction of specific tissue transplantation tolerance using fractionated total lymphoid irradiation. Yearbook of Cancer, 1978.

45. Uhr, J.W., Cambier, J.C., Ligler, F., Kettman, J., Zan-Bar, I., **Strober, S.,** and Vitetta, E.S. Murine IgD and B lymphocyte differentiation. Cold Spring Harbor Symposium on Hematopoietic Cell Differentiation, 5:505, 1978.

46. Slavin, S., and **Strober, S.** Spontaneous murine B-cell leukemia. Nature 272:624-626, 1978.

47. **Strober, S.,** and McDevitt, H.O. Immunologic disorders. In: Current Diagnosis and Treatment (Ed.: M.S. Krupp and M.J. Chatton). Lange Medical Publications, Los Altos, California, pp. 1045-1055, 1978.

48. Zan-Bar, I., and **Strober, S.** Characterization of suppressor T cells in tolerant mice. Z. Immunol. Forsch. 154:379, 1978.

49. Slavin, S., Reitz, B., Beiber, C.P, Kaplan, H.S., and **Strober, S.** Transplantation tolerance in adult rats using total lymphoid irradiation (TLI): Permanent survival of skin, heart, and marrow allografts. J. Exp. Med., 147:700-707, 1978.

50. Slavin, S., Fuks, Z., Kaplan, H.S., and **Strober, S.** Transplantation of allogeneic bone marrow without graft vs. host disease using total lymphoid irradiation. J. Exp. Med., 147:963-972, 1978.

51. Zan-Bar, I., Vitetta, E.S., Assisi, F., and **Strober, S.** The relationship between surface immunoglobulin isotype and immune function of murine B lymphocytes. III. Expression of a single predominant isotype on primed and unprimed B cells. J. Exp. Med., 147:1374-1394, 1978.

52. Zan-Bar, I., Slavin, S., and **Strober, S.** Induction and mechanism of tolerance to bovine serum albumin in mice given total lymphoid irradiation (TLI). J. Immunol. 121:1400-1404, 1978.

53. Vitetta, E.S., Camber, J.C., Ligler, F.S., Kettman, J.R., **Strober, S.,** Zan-Bar, I., and Uhr, J.W. Surface immunoglobulins on differentiating B lymphocytes in the mouse. In: Developmental Immunobiology (Eds.: G. Siskind, S.D., Letivin and M.E. Weksler) Grune and Stratton, Cornell Symposium, pp. 109-129, 1979.

54. Slavin, S., Fuks, Z., Bieber, C., Hoppe, R., Kaplan, H.S., and **Strober, S.** Immunosuppression and permanent transplantation tolerance across major histocompatibility barriers following total lymphoid irradiation. In: Cell Biology and Immunology of Leukocyte Function, Academic Press, Inc., New York, p. 917-924, 1979.

55. Slavin, S., Gottlieb, M., **Strober, S.,** Bieber, C., Hoppe, R., Kaplan, H.S., and Grumet, F.C. Transplantation of bone marrow in outbred dogs without graft vs. host disease using total lymphoid irradiation (TLI). Transplantation 27:139-142, 1979.

56. Slavin, S., Zan-Bar, I., and **Strober, S.** Generation of protein-specific and alloantigen-specific suppressor cells following total lymphoid irradiation in mice. Transplant. Proc. 11:891-894, 1979.

57. **Strober, S.,** Slavin, S., Fuks, Z., Kaplan, H.S., Gottlieb, M., Bieber, C., Hoppe, R., and Grumet, F.C. Transplantation tolerance after total lymphoid irradiation (TLI). Transplant. Proc. 11:1032-1038, 1979.

58. Zan-Bar, I., Slavin, S., and **Strober, S.** Effect of total lymphoid irradiation (TLI) on the primary and secondary antibody response to sheep red blood cells. Cell. Immunol. 45:167-174, 1979.

59. Van der Loo, W., Gronowicz, E.S., **Strober, S.**, and Herzenberg, L.A. Cell differentiation in the presence of cytochalasin B: Studies on the "switch" to IgG secretion after polyclonal B cell activation. J. Immunol. 122:1203-1208, 1979.

60. Vitetta, E.S., Yuan, D., Krolick, K., Isakson, P., Knapp, M., Slavin, S., and **Strober, S.** Characterization of the spontaneous murine B cell leukemia (BCL). III. Evidence for monoclonality by using anti-idiotype antibody. J. Immunol. 122:1649-1654, 1979.

61. Gottlieb, M., Hoppe, R.T., Calin, A., and **Strober, S.** Arthritis in a patient with Mycosis Fungoides: Complete remission after radiotherapy. Arthritis Rheum. 22:424-425, 1979.

62. Schroder, J., Suomalainen, H., Knapp, M.R., Gronowicz, E., and **Strober, S.** Karyotypic differentiation in a spontaneous mouse B-cell leukemia. Cancer Genetics and Cytogenetics, 1:57-62, 1979.

63. Gottlieb, M., **Strober, S.**, and Kaplan, H.S. Allogeneic marrow transplantation after total lymphoid irradiation (TLI). Effect of dose/fraction, thymic irradiation, delayed marrow infusion and presensitization. J. Immunol. 123:379-383, 1979.

64. Zan-Bar, I., **Strober, S.**, and Vitetta, E.S. The relationship between surface immunoglobulin isotype and immune function of murine B lymphocytes. IV. Role of IgD bearing cells in the propagation of immunological memory. J. Immunol. 123:925-930, 1979.

65. Slavin, S., and **Strober, S.** Induction of allograft tolerance after total lymphoid irradiation (TLI): Development of suppressor cells of the mixed leukocyte reaction (MLR). J. Immunol. 123:942-946, 1979.

66. Kotzin, B., and **Strober, S.** Reversal of NZB/NZW disease with total lymphoid irradiation. J. Exp. Med., 150:371-378, 1979.

67. Knapp, M., Jones, P.P. Black, S.J., Vitetta, E.S., Slavin, S., and **Strober, S.** Characterization of a spontaneous murine B cell leukemia (BCL_1) I. Cell surface expression of IgM, IgD, Ia and FcR. J. Immunol. 123:992-999, 1979.

68. Knapp, M,. Gronowicz, E.S., Schroder, J., and **Strober, S.** Characterization of a spontaneous murine B cell leukemia (BCL_1). II. Tumor cell proliferation and IgM secretion after stimulation by LPS. J. Immunol. 123:1000-1006, 1979.

69. Warnke, R.A., Slavin, S,. Coffman, R.L., Butcher, E.C., Knapp, M.R., **Strober, S.**, and Weissman, I.L. The pathology and homing of a transplantable murine B cell leukemia (BCL_1). J. Immunol. 123:1181-1188, 1979.

70. Slavin, S., Fuks, Z., **Strober, S.**, Kaplan, H.S., Howard, R.J., and Sutherland, D.E.R. Transplantation tolerance across major histocompatibility barriers after total lymphoid irradiation. Transplantation 28:359-361, 1979.

71. Slavin, S., and **Strober, S.** Suppressor mechanisms in tissue transplantation tolerance following total lymphoid irradiation (TLI). In: T and B lymphocytes — Recognition and Function (Eds.: F.H. Bach, B. Bonavida, E.S. Vitetta, and C.F. Fox). Academic Press, New York, pp 241-247, 1979.

72. Gronowicz, E.S., Doss, C., Assisi, F., Vitetta, E.S., Coffman, R.L., and **Strober, S.** Surface Ig isotypes on cells responding to lipopoly-saccharide by IgM and IgG secretion. J. Immunol. 123:2049-2056, 1979.

73. **Strober, S.**, Zan-Bar, I., Gronowicz, E., and Vitetta, E.S. Relationship between immune function and surface immunoglobulin isotype of subsets of B lymphocytes. Am. Soc. Microbiology, New York. Microbiology 79:331-334, 1979.

74. **Strober, S.**, Slavin, S., Gottlieb, M., Zan-Bar, I., King, D.P., Hoppe, R.T., Fuks, Z., Grumet, F.C., and Kaplan, H.S. Allograft tolerance after total lymphoid irradiation (TLI). Immunol. Rev. 46:87-112, 1979.

75. **Strober, S.**, Gronowicz, E.S., Knapp, M.R., Slavin, S., Vitetta, E.S., Warnke, R.A., Kotzin, B., and Schroder, J. Immunobiology of a spontaneous murine B cell leukemia (BCL_1). Immunol. Rev. 48:169-195, 1979.

76. Slavin, S., Gottlieb, M., Bieber, C., Hoppe, R.T., Fuks, Z., Grumet, F.C., Kaplan, H.S., and **Strober, S.** Prevention du rejet d'allogrettes par induction d'une tolerance specifique obtenue par irradiation lymphoide totale. Actualities Nephrologiques (Eds.: J. Hamburger, J. Crosnier, and L. Junck-Brentano). Flammarion Medicine-Sciences, Paris, pp. 383-391, 1979.

77. **Strober, S.**, Zan-Bar, I., and Vitetta, E.S. Propagation of immunological memory by IgD bearing cells. In: B Lymphocytes in the Immune Response (Eds.: M. Cooper, D. Mosier, I. Scher and E.S. Vitetta). Elsevier/North-Holland, Amsterdam, pp. 139-144, 1979.

78. **Strober, S.**, Gottlieb, M., Slavin, S., Hoppe, R.T., Grumet, F.C., and Kaplan, H.S. Use of total lymphoid irradiation (TLI) in bone marrow and organ transplantation. Transplant. Proc. 11:1930-1933, 1979.

79. Yuan, D., Uhr, J.W., Knapp, M.R., Slavin, S., **Strober, S.**, and Vitetta, E.S. Structural differences between μ chain of cell-associated and secreted immunoglobulin-M. In: B Lymphocytes in the Immune Response (Eds.: M. Cooper, D. Mosier, I. Scher, and E.S. Vitetta). Elsevier/North-Holland, Amsterdam, pp. 23-31, 1979.

80. Vitetta, E.S., Cambier, J.C., Ligler, F.C., Kettman, J.R., Zan-Bar, I., **Strober, S.**, and Uhr, J.W. The role of surface immunoglobulins in triggering and tolerance of B cells. In: B Lymphocytes in the Immune Response (Eds.: M. Cooper, D. Mosier, I. Scher, and E.S. Vitetta). Elsevier/North-Holland, Amsterdam, pp. 233-239, 1979.

81. Bieber, C.P., Jamieson, S., Raney, A., Burton, N., Bogarty, S., Hoppe, R., Kaplan, H.S., **Strober, S.**, and Stinson, E.B. Cardiac allograft survival in rhesus primates treated with combined total lymphoid irradiation and rabbit anti-thymocyte globulin. Transplantation 28:347-350, 1979.

82. Slavin, S., Fuks, Z., Bieber, C.P., Hoppe, R., Kaplan, H.S., **Strober, S.** Immunosuppression and permanent transplantation tolerance across major histocompatibility barriers following total lymphoid irradiation. In: Cell Biology and Immunology of Leukocyte Function (Ed.: M.R. Quastel). Academic Press, New York, NY, pp. 917-924, 1979.

83. Kotzin, B., and **Strober, S.** Role of the spleen in the growth of a murine B cell leukemia. Science 208:59-61, 1980.

84. Slavin, S., Gottlieb, M., Bieber, C., Hoppe, R.T., Fuks, Z., Grumet, F.C., Kaplan, H.S., and **Strober, S.** Prevention of allograft rejection by induction of specific transplantation tolerance with immunomanipulation using total lymphoid irradiation. In: Advances in Nephrology, Yearbook Medical Publishers, Inc., 9:209-219, 1980.

85. **Strober, S.**, Kotzin, B.L., and Schurman, M.D. Treatment of autoimmune diseases with total lymphoid irradiation (TLI). In: 8th International Symposium on Immunopathology (Ed.: P.A. Miescher). S. Karger, Basel, Switzerland, Vol. VII, pp. 345-364, 1980.

86. Gottlieb, M., **Strober, S.**, and Kaplan, H.S. Cellular basis of graft versus host tolerance in chimeras prepared with total lymphoid irradiation. J. Exp. Med., 152:736-741, 1980.

87. Theofilopoulos, A.N., Balderas, R., Shawler, D.L., Izui, S., Kotzin, B.L., **Strober, S.**, and Dixon, F.J. Inhibition of T cell proliferation and SLE-like syndrome of MRL/1 mice by whole body or total lymphoid irradiation. J. Immunol. 125:2137-2142, 1980.

88. Slavin, S., Yatziv, S., Zan-Bar, I., Fuks, Z., Kaplan, H.S., and **Strober, S.** Nonspecific and specific immunosuppression by total lymphoid irradiation (TLI). In: Progress in Immunology IV, 4th International Congress of Immunology, Immuno. 80, Academic Press, New York, pp. 1160-1170, 1980.

89. Slavin, S., and **Strober, S.** Mechanisms of transplantation tolerance to allogeneic bone marrow cells following total lymphoid irradiation (TLI). In: Immunobiology of Bone Marrow Transplantation (Eds.: S. Theirfelder, H. Rodt, and H.J. Kolb). Springer-Verlag, Berlin, Heidelberg, 1980, p. 323-331.

90. Gronowicz, E.S., Doss, C.A., Howard, F.D., Morrison, D.C., and **Strober, S.** An *in vitro* line of the B cell tumor BCL_1 can be activated by LPS to secrete IgM. J. Immunol. 125:976-980, 1980.

91. Slavin, S., **Strober, S.**, Fuks, Z., and Kaplan, H.S. Immunosuppression and organ transplantation tolerance using total lymphoid irradiation (TLI). Diabetes 29:121-123, 1980.

92. Gottlieb, M., **Strober, S.**, Hoppe, R.T., Grumet, F.C., and Kaplan, H.S. Bone marrow transplantation in inbred and outbred animals using total lymphoid irradiation (TLI). In: Biology of Bone Marrow Transplantation. ICN-UCLA Symposia on Molecular and Cellular Biology, Volume XVII (Eds.: R.P. Gale and C.F. Fox). Academic Press, New York, pp. 395-403, 1980.

93. Gottlieb, M., **Strober, S.**, Hoppe, R., Grumet, F.C., and Kaplan H.S. Engraftment of allogeneic bone marrow without graft vs. host disease in mongrel dogs using total lymphoid irradiation. Transplantation 29:487-491, 1980.

94. Slavin, S., Zan-Bar, I., and **Strober, S.** Long-term effects of splenectomy on immunocompetent cells of adult mice. Cell. Immunol. 55:444-455, 1980.

95. **Strober, S.**, Gottlieb, M., Slavin S., Hoppe, R., Grumet, F.C., and Kaplan, H.S. Marrow and organ transplantation after total lymphoid irradiation (TLI). In: Transplantation and Clinical Immunology, Vol. XI (Eds.: J.L. Touraine, J. Traeger, H. Betuel, J. Brochier, J.M. Dubernard, J.P. Revillard, and R. Triau). Elsevier/North-Holland, Inc., New York, NY, pp. 3-9, 1980.

96. **Strober, S.**, Gottlieb, M., Slavin, S., King, D.P., Hoppe, R.T., Fuks, Z., Bieber, C.P., and Kaplan, H.S. Immunosuppression and tolerance after total lymphoid irradiation (TLI). Transplant. Proc. 12:477-482, 1980.

97. **Strober, S.** Surface immunoglobulins (Ig) and physiological characteristics of virgin and memory B cells. In: Strategies of Immune Regulation (Eds.: E. Sercarz and A. Cunningham). Academic Press, New York, pp. 447-449, 1980.

98. Vitetta, E.S., Cambier, J.C., Kettman, J.R., Ligler, F.S., Yuan, D., Buck, L., Zan-Bar, I., **Strober, S.**, and Uhr, J.W. Role of receptor IgM and IgD in determining triggering and induction of tolerance in murine B cells. In: Biological Basis of Immunodeficiency (Eds.: W.E. Gelfand and H.M. Dosch). Raven Press, New York, pp. 189-207, 1980.

99. Parkman, R., Rich, R.R., Slavin, S., and **Strober, S.** Suppressor cells and GVHD. In: The Biology of Bone Marrow Transplantation (Eds.: R.P. Gale, and C.F. Fox). Academic Press, New York, pp. 285-290, 1980.

100. **Strober, S.** Immunologic aspects of inflammation: Lymphocyte Populations. In: Textbook of Rheumatology (Eds.: W.N. Kelley, E.D. Harris, S., Ruddy, and C.B. Sledge). W.B. Saunders, Philadelphia, pp. 19-31, 1981.

101. **Strober, S.**, and Weissman, I.L. Immunosuppressive and tolerogenic effects of whole body, total lymphoid, and regional irradiation. In: The Current Status of Modern Therapy (Ed.: J.R. Salaman). MTP Press Limited, Lancaster, England, Volume 6, pp. 19-53, 1981.

102. Hoppe, R.T., Fuks, Z.Y., **Strober, S.**, and Kaplan, H.S. Immunosuppressive effects of ionizing irradiation. In: Immunopharmacologic Effects of Radiation Therapy (Eds.: J.B. Dubois, B. Serrou, and C. Rosenfeld). Raven Press, New York, NY, pp. 195-206, 1981.

103. Koretz, S.H., Gottlieb, M.S., **Strober, S.**, Pennock, J., Bieber, C.P., Hoppe, R., Reitz, B.A., and Kaplan, H.S. Organ transplantation in mongrel dogs using total lymphoid irradiation (TLI). Transplant. Proc. 13:443-445, 1981.

104. **Strober, S.**, Kotzin, B.L., Hoppe, R.T., Slavin, S., Gottlieb, M., Calin, A., Fuks, Z., and Kaplan, H.S. The treatment of intractable rheumatoid arthritis with lymphoid irradiation. Int. J. Radiation Oncology Biol. Phys. 7:1-7, 1981.

105. Bieber, M.M., Kaplan, H.S., and **Strober, S.** Polar lipid inhibitor of PHA mitogenesis in the sera of untreated patients with Hodgkin's disease. In: Advances in Malignant Lymphomas: Etiology, Immunology, Pathology, and Treatment. (Eds.: S.A. Rosenberg, and H.S. Kaplan). Academic Press, Inc., New York, pp. 265-294, 1981.

106. **Strober, S.**, King, D.P., Gottlieb, M., Hoppe, R.T., and Kaplan, H.S. Induction of transplantation tolerance after total lymphoid irradiation: Cellular Mechanism. Fed. Proc. 40:1463-1465, 1981.

107. **Strober, S.**, King, D.P., Gottlieb, M., Hoppe, R.T., and Kaplan, H.S. Cellular mechanisms of tolerance after total lymphoid irradiation. Transplant. Proc. 13:556-561, 1981.

108. King, D.P., **Strober, S.**, and Kaplan, H.S. Suppression of the mixed leukocyte response and of graft-*vs*-host disease by spleen cells following total lymphoid irradiation (TLI). J. Immunol. 126:1140-1145, 1981.

109. Schurman, D.J., Hirshman, H.P., and **Strober, S.** Total lymphoid irradiation and local joint irradiation in the treatment of adjuvant arthritis. Arthritis Rheum. 24:38-44, 1981.

110. Teale, J.M., Lafrenz, D., Klinman, N.R., and **Strober, S.** Immunoglobulin class commitment exhibited by B lymphocytes separated according to surface isotype. J. Immunol. 126:1952-1957, 1981.

111. **Strober, S.** "Managing" the immune system with total lymphoid irradiation. Hospital Practice 16:77-89, 1981.

112. King, D.P., and **Strober, S.** Immunoregulatory changes induced by total lymphoid irradiation. II. development of TL^+ and TL^- suppressor T cells that differ in their regulatory function. J. Exp. Med., 154:13-23, 1981.

113. Kotzin, B.L., and **Strober, S.** The cellular basis of immunodeficiency and autoimmune diseases. In: Contemporary Series in Immunology, Marcel Dekker Press, New York, pp. 237-288, 1981.

114. Pennock, J.L., Reitz, B.A., Bieber, C.P., Aziz, S., Oyer, P.E., **Strober, S.**, Hoppe, R., Kaplan, H.S., Stinson, E.B., and Shumway, N.E. Survival of primates following orthotopic cardiac transplantation treated with total lymphoid irradiation and chemical immune suppression. Transplantation 32:467-473, 1981.

115. Lafrenz, D., **Strober, S.**, and Vitetta, E. The relationship between surface immunoglobulin isotype and the immune function of murine B lymphocytes. V. High affinity secondary antibody responses are transferred by both IgD positive and IgD negative memory B cells. J. Immunol. 127:867-872, 1981.

116. King, D.P., **Strober, S.**, and Kaplan, H.S. Immunoregulatory changes induced by total lymphoid irradiation (TLI). I. Appearance of a population of cells bearing the thymus leukemia (TL) surface antigen in the lymph nodes and spleen. J. Immunol. 127:1085-1089, 1981.

117. Pennock, J.L., **Strober, S.**, Reitz, B.A., Hoppe, R., Koretz, S., Bieber, C.P., Kaplan, H.S., Stinson, E.B., and Shumway, N.E. Cardiac allograft survival in dogs treated with total lymphoid irradiation and chemical immune suppression. Surgical Forum 32:362-364, 1981.

118. **Strober, S.** Regulation by T lymphocyte subsets. Fed. Proc. 40:1462, 1981.

119. Knapp, M.R., **Strober, S.**, Liu, C.P., Tucker, P.W., Newell, N., and Blattner, F. Dual expression of IgM and IgD by a cloned B cell line (BCL_1): A single copy of the V_H gene is shared by two adjacent C_H genes. In: B lymphocytes in the immune response: Functional, developmental and interactive properties. (Eds.: N.R. Klinman, D.E. Mosier, I. Scher and E.S. Vitetta). Elsevier/North-Holland, Amsterdam, pp. 19-26, 1981.

120. Lafrenz, D., **Strober, S.**, Teale, J.M., and Klinman, N.R. Relationship between surface immunoglobulin isotypes and secreted isotypes during B cell differentiation. In: B lymphocytes in the Immune Response: Functional, developmental and interactive properties. (Eds., N.R., Klinman, D.E. Mosier, I. Scher and E.S. Vitetta). Elsevier/North-Holland, Amsterdam, pp. 377-383, 1981.

121. Slavin, S., and **Strober, S.** In vitro T cell mediated function in patients with active rheumatoid arthritis. Annals of Rheumatic Diseases 40:60-63, 1981.

122. Kotzin, B.L., **Strober, S.**, Engleman, E.G., Calin, A., Hoppe, R.T. Kansas, G.S., Terrell, C.P., and Kaplan, H.S. Treatment of intractable rheumatoid arthritis with total lymphoid irradiation. N. Engl. J. Med., 305:969-976, 1981.

123. Knapp, M.R., Liu, C.-P., Newell, N., Ward, R.B. Tucker, P.W., **Strober, S.**, and Blattner, F. Simultaneous expression of immunoglobulin μ and ∂ heavy chains by a cloned B-cell lymphoma: A single copy of V_H gene is shared by two adjacent C_H genes. Proc. Natl. Acad. Sci. USA 79:2996-3000, 1982.

124. Lafrenz, D., Teale, J.M., and **Strober, S.** Role of the IgD in immunological memory. In: Immunoglobulin D: Structure and function (Eds.: G.J. Thorbecke and G.A. Leslie), Annals of New York Academy of Sciences, New York, pp. 375-388, 1982.

125. Okada, S., and **Strober, S.** Spleen cells from adult mice given total lymphoid irradiation (TLI) or from newborn mice have similar regulatory effects in the mixed leukocyte reaction (MLR). I. Generation of antigen-specific suppressor cells in the MLR after the addition of spleen cells from adult mice given TLI. J. Exp. Med., 156:522-538, 1982.

126. Lafrenz, D., Koretz, S., Stratte, P.T., Ward, R.B. and **Strober, S.** LPS-induced differentiation of a murine B cell leukemia (BCL_1): Changes in Surface and Secreted IgM. J. Immunol. 129:1329-1335, 1982.

127. Okada, S., and **Strober, S.** Spleen cells from adult mice given total lymphoid irradiation (TLI) or from newborn mice have similar regulatory effects in the mixed leukocyte reaction (MLR). II. Generation of antigen-specific suppressor cells in the MLR after the addition of spleen cells from newborn mice. J. Immunol. 129:1892-1897, 1982.

128. Blattner, F.R., Richards, J.E., Shen, A., Knapp, M., **Strober, S.**, Gilliam, A.C., Jones, S., Cheng, H-L, Mushinski, J.F., Tucker, P.W. Genetics aspects of IgD expression: I. Analysis of the Cμ-Cδ complex in committed and uncommitted DNA. In: Immunoglobulin D: Structure and Function. (Eds.: G.J. Thorbecke and G.A. Leslie). Annals of the New York Academy of Sciences, New York, 399:1-14, 1982.

129. Kotzin, B.L., and **Strober, S.** Total lymphoid irradiation. In: Recent Advances in Clinical Immunology (Ed.: R.A. Thompson). Churchill Livingstone. pp. 287-308, 1983.

130. **Strober, S.**, and Schwadron, R. Role of marrow transplantation in tolerance to organ allografts. In: Recent Advances in Bone Marrow Transplantation. Alan R. Liss, Inc., New York, pp. 1-9, 1983.

131. **Strober, S.** Managing the immune system with total lymphoid irradiation. In: The Biology of Immunologic Disease (Eds.: F.J. Dixon and D.W. Fisher). Hospital Practice Book. Sinauer Associates, Inc., Sunderland, pp. 339-388, 1983.

132. Modry, D.L., **Strober, S.**, Hoppe, R.T., Bieber, C.P., Pennock, J.L., Koretz, S., Jamieson, S.W., Reitz, B.A., Stinson, E.B., and Kaplan, H.S. Total lymphoid irradiation: Experimental models and clinical application in organ transplantation. Heart Transplantation 2:122-135, 1983.

133. Feiner, R.H., **Strober, S.**, and Greenberg, P.L. Murine granulopoiesis after fractionated total lymphoid irradiation and allogeneic bone marrow transplantation. Exp. Hematol. 11:410-417, 1983.

134. Field, E.H., **Strober, S.**, Hoppe, R.T., Calin, A., Engleman, E.G., Kotzin, B.L., Tanay, A.S., Calin, H.J., Terrell, C.P. and Kaplan, H.S. Sustained improvement of intractable rheumatoid arthritis after total lymphoid irradiation. Arthritis Rheum. 26:937-946, 1983.

135. Kaplan, H.S., Hoppe, R.T., and **Strober, S.** Selective immunosuppressive effects of total lymphoid irradiation. In: Primary and Secondary Immunodeficiency Disorders (Eds.: R.K. Chandra). Churchill Livingstone Press, Edinburgh, pp. 272-279, 1983.

136. Kotzin, B.L., Kansas, G.S., Engleman, E.G., Hoppe, R.T., Kaplan, H.S., and **Strober, S.** Changes in T cell subsets in patients with rheumatoid arthritis treated with total lymphoid irradiation. Clinical Immunol. Immunopath. 27:250-260, 1983.

137. Okada, S., Palathumpat, V., and **Strober, S.** Identification of donor-derived antigen specific suppressor cells in murine bone marrow chimeras prepared with total lymphoid irradiation (TLI). Transplantation 36:417-422, 1983.

138. **Strober, S.**, Field, E.H., Kotzin, B.L., Hoppe, R.T., Engleman, E.G., Tanay, A.S., and Kaplan, H.S. Treatment of intractable rheumatoid arthritis with total lymphoid irradiation (TLI): Immunological and clinical changes. Radiotherapy and Oncology 1:43-52, 1983.

139. Hoppe, R.T., **Strober, S.**, and Kaplan, H.S. Total lymphoid irradiation in the management of autoimmune disease and organ transplantation. In: Radiation Oncology Annual 1983 (Eds.: Phillips, T.L. and Pistenmaa, D.A.). Raven Press, New York, pp. 205-232, 1984.

140. **Strober, S.** Natural Suppressor (NS) Cells, Neonatal Tolerance, and Total Lymphoid Irradiation: Exploring Obscure Relationships. Ann. Rev. Immunol. 2:219-237, 1984.

141. Oseroff, A., Okada, S., and **Strober, S.** Natural suppressor (NS) cells found in the spleen of neonatal mice and adult mice given total lymphoid irradiation (TLI) express the null surface phenotype. J. Immunol. 132:101-110, 1984.

142. **Strober, S.** Strategies promoting allograft acceptance: An overview. In: 67th Annual Meeting of the Fed. of Amer. Soc. for Exp. Biology, Chicago. Fed. Proc. 43:261-262, 1984.

143. **Strober, S.**, Okada, S., and Oseroff, A. Role of natural suppressor cells in allograft tolerance. Fed. Proc. 43:263-265, 1984.

144. **Strober, S.** Overview: Effect of total lymphoid irradiation on autoimmune disease and transplantation immunity. KROC Foundation Conference: Effect of Total Lymphoid Irradiation of Autoimmune Disease and Transplantation Immunity. J. Immunol. 132:968-970, 1984.

145. Tanay, A.S., and **Strober, S.** Opposite effects of total lymphoid irradiation on T cell dependent and T cell independent antibody responses. KROC Foundation Conference: Effect of Total Lymphoid Irradiation on Autoimmune Disease and Transplantation Immunity. J. Immunol. 132:979-984, 1984.

146. **Strober, S.**, Modry, D.L., Hoppe R.T., Pennock, J.L., Bieber C.P., Holm, B.I., Jamieson, S.O., Stinson, E.B., Schroder, J., Soumalainen, H., and Kaplan, H.S. Induction of specific

unresponsiveness to heart allografts in mongrel dogs treated with total lymphoid irradiation and anti-thymocyte globulin. KROC Foundation Conference: Effect of Total Lymphoid Irradiation on Autoimmune Disease and Transplantation. J. Immunol. 132:1013-1018, 1984.

147. Field, E.H., Engleman, E.G., Terrell, C.P., and **Strober, S.** Reduced *in vitro* immune responses of purified human Leu-3 (helper/induces phenotype) cells after total lymphoid irradiation. KROC Foundation Conference: Effect of Total Lymphoid Irradiation on Autoimmune Disease and Transplantation. J. Immunol. 132:1031-1035, 1984.

148. Tanay, A.S., **Strober, S.**, Logue, G.L., and Schiffman, G. Use of total lymphoid irradiation (TLI) in studies of the T cell dependence of autoantibody production in rheumatoid arthritis. KROC Foundation Conference: Effect of Total Lymphoid Irradiation on Autoimmune Disease and Transplantation. J. Immunol. 132:1036-1040, 1984.

149. Kotzin, B.L., **Strober, S.**, Kansas, G.S., Terrell, C.P., and Engleman, E.G. Suppression of pokeweed mitogen-stimulated immunoglobulin production in patients with rheumatoid arthritis after treatment with total lymphoid irradiation. J. Immunol. 132:1049-1055, 1984.

150. Friedman, S., **Strober, S.**, Field, E.H., Silverman, E., and Myers, B.D. Glomerular capillary wall function in human lupus nephritis. Am. J. Physiol. 246 (Renal Fluid Electrolyte Physiol. 15):F580-F591, 1984.

151. Kotzin, B.L., **Strober, S.** Total lymphoid irradiation. In: Clinics in Immunology and Allergy. Immune Suppression and Modulations. (Eds: M.S. Mitchell and J. L. Fahey). W.B. Saunders Co., 4(2):331-358, 1984.

152. Hertel-Wulff, B., Okada, S., Oseroff, A., and **Strober, S.** *In vitro* propagation and cloning of murine natural suppressor (NS) cells. J. Immunol. 133:2791-2796, 1984.

153. Botnick, L.E., Hoppe, R.T., Kim, T., Travis, E.L., **Strober, S.**, and Bloomer, W.D., Radiation therapy for immunosuppression and marrow or organ transplantation. Cancer Treat, Symposia 1:161-168, 1984.

154. **Strober, S.**, Hoppe, R.T., Levin B., and Sampson, D. Total lymphoid irradiation in renal transplantation: Reduction and elimination of maintenance immunosuppressive drugs. In Nephrology Today (Ed.: R.R. Robinson), Kingsport Press, Kingsport, Tennessee, pp. 1695-1707, 1984.

155. Hertel-Wulff, B., Palathumpat, V., and **Strober, S.** *In vitro* propagation and cloning of murine natural suppressor cells: Suppression of alloreactivity. Transplant. Proc. 17:1121-1123, 1985.

156. **Strober, S.**, Gottlieb, M.S., Hoppe, R.T., Bieber, C.P., Paulnock, D.P. (King), Kotzin, B.L., Koretz, S.H., Reitz, B.A., and Kaplan, H.S. Use of total lymphoid irradiation in organ transplantation. In: Chronic Renal Disease (Eds.: N.B. Cummings, and S. Klahr), Plenum Publishing Corp., New York, NY pp. 467-475, 1985.

157. Sampson, D., Levin, B.S., Hoppe, R.T., Bieber, C.P., Miller, E., Waer, M., Kaplan, H.S., Collins, G., and **Strober, S.** Preliminary observations on the use of total lymphoid irradiation, rabbit anti-thymocyte globulin, and low-dose prednisone in human cadaver renal transplantation. Transplant. Proc. 17:1299-1303, 1985.

158. **Strober, S.**, and Kotzin, B.L. Immunologic aspects of inflammation: Lymphocyte populations. In: Textbook of Rheumatology. (Eds.: W.N. Kelly, E.D. Harris, Jr., S. Ruddy and C.B. Sledge). W. B. Saunders Co., Philadelphia, PA, pp 22-35, 1985.

159. **Strober, S.**, Tanay, A., Field, E., Hoppe, R.T., Calin, A., Englcman, E.G., Kotzin, B., Brown, B.W., and Kaplan, H.S. Efficacy of total lymphoid irradiation in intractable rheumatoid arthritis: A double-blind, randomized trial. Ann. Intern. Med., 102:441-449, 1985.

160. **Strober, S.**, Field, E., Hoppe, R.T., Kotzin, B.L., Shemesh, O., Engleman, E., Ross, J.C., and Myers, B.D. Treatment of intractable lupus nephritis with total lymphoid irradiation. Ann. Intern. Med., 102:450-458, 1985.

161. Tanay, A., and **Strober, S.** T cell regulation of the thymus-independent antibody response to Trinitrophenylated-Brucella Abortus (TNP-BA). J. Immunol. 134:3669-3674, 1985.

162. Khan, M.M., Melmon K.L., Fathman, C.G., Hertel-Wulff, B., and **Strober, S.** The effects of autacoids on cloned murine lymphoid cells: Modulation of IL-2 secretion and the activity of natural suppressor cells. J. Immunol. 134:4100-4106, 1985.

163. Schwadron, R.B., Gandour, D.M., and **Strober, S.** Cloned natural suppressor cells lines derived from the spleen of neonatal mice. J. Exp. Med., 162:297-310, 1985.

164. Levin, B., Hoppe, R.T., Collins, G., Miller, E., Waer, M., Bieber, C., Girinsky, T., and **Strober, S.** Treatment of cadaveric renal transplant recipients with total lymphoid irradiation, anti-thymocyte globulin and low dose prednisone. Lancet, Vol. II, Dec. 14, pp. 1321-1325, 1985.

165. Tanay, A., Schiffman, G., and **Strober, S.** Effect of total lymphoid irradiation (TLI) on levels of serum autoantibodies in systemic lupus erythematosus and in rheumatoid arthritis. Arthritis Rheum. 29:26-31, 1986.

166. **Strober, S.** Use of total lymphoid irradiation in organ transplantation. Transplant. Immunol. Letter, Vol. 2, No. 4, pp. 1-6, February 1986.

167. Lafrenz, D., Teale, J.M., Klinman, N.R., and **Strober, S.** Surface IgG bearing cells retain the capacity to secrete IgM^1. J. Immunol. 136:2076-2079, 1986.

168. **Strober, S.**, Kotzin, B., Field, E., Hoppe, R., Myers, B., and Tanay, A. Treatment of autoimmune disease with total lymphoid irradiation: Cellular and humoral mechanisms. Ann. N.Y. Acad. Sci. 475:285-295, 1986.

169. Kotzin, B.L., Arndt, R., Okada, S., Ward, R., Tbach, A.B., and **Strober, S.** Treatment of NZB/NZW mice with total lymphoid irradiation: long-lasting suppression of disease without generalized immune suppression. J. Immunol. 136:3259-3265, 1986.

170. Khan, M.M., Marr-Leisy, D., Verlander, M.S., Bristow, M.R., **Strober, S.**, Goodman, M., and Melmon, K.L. The effects of derivatives of histamine on natural suppressor cells. J. Immunol. 137:308-314, 1986.

171. **Strober, S.** Use of total lymphoid irradiation in autoimmunity and transplantation: Cellular mechanisms. In: Mediators of Immune Regulation and Immunotherapy (Eds: S.K. Singhal, and T.L. Delovitch), Elsevier Science Publication Co., Inc., pp 204-212, 1986.

172. **Strober, S.** Approaches to human immune tolerance. Immunology Today, 7:153-155, 1986.

173. Khan, M.M., **Strober, S.,** and Melmon, K.L. Regulatory effects of mast cells on lymphoid cells: The role of histamine type 1 receptors in the interaction between mast cells, helper T cells and natural suppressor cells. Cell. Immunol. 103:41-53, 1986.

174. Tanay, A., Filed, E.H., Hoppe, R.T., and **Strober, S.** Long-term follow up of patients with rheumatoid arthritis after total lymphoid irradiation. Arthritis Rheum. 30:1-10, 1987.

175. Rapaport, F.T., Meek, A.G., Arnold A., Miura S., and **Strober, S.** Attenuation of immunologic memory in canine recipients hyperimmunized with DLA-specific alloantigens. Transplant. Proc. 19:464-468, 1987

176. Miura, S., Meek, A.G., Arnold, A.N., **Strober, S.,** and Rapaport, F.T. The role of passenger cells in the induction of allogeneic unresponsiveness to canine renal allografts. Transplant. Proc. 19:523-525, 1987.

177. Schwadron, R.B., and **Strober, S.** Cloned natural suppressor (NS) cells derived from the neonatal spleen: *In vitro* action and lineage. Transplant. Proc. 19:533-535, 1987.

178. Hertel-Wulff, B., Palathumpat, V., Schwadron, R., and **Strober, S.** Prevention of graft versus host disease by natural suppressor cells. Transplant. Proc. 19:536-539, 1987.

179. **Strober, S.,** Palathumpat, V., Schwadron, R., and Hertel-Wulff, B. Cloned natural suppressor cells prevent lethal graft versus host disease. J. Immunol. 138:699-703, 1987.

180. Sherrer, Y., Bloch, D., **Strober, S.,** and Fries, J. Comparative toxicity of total lymphoid irradiation and immunosuppressive drug treated patients with intractable rheumatoid arthritis. J. Rheumatol. 14:46-51, 1987.

181. Chow, D., Saper, V., and **Strober, S.** Renal transplant patients treated with total lymphoid irradiation show specific unresponsiveness to donor antigens in the mixed leukocyte reaction (MLR). J. Immunol. 138:3746-3750, 1987.

182. Hoppe, R.T., and **Strober, S.** Total lymphoid irradiation in autoimmune diseases and organ transplantation. In: Principles and Practice of Radiation Oncology (Eds. C.A. Perez and L.W. Brady), J.B. Lippincott Company, Philadelphia, PA, pp 1258-1266, 1987.

183. **Strober, S.** Total lymphoid irradiation: Basic and clinical studies in transplantation immunity. In: Transplantation: Approaches to Graft Rejection, Proceedings of the XVIII Annual Scientific Symposium of the American Red Cross, Washington, DC (Ed. H.T. Meryman), Alan R. Liss, Inc., New York, NY, pp 251-262, 1987.

184. Rapaport, F.T., Meek, A.G., Arnold, A.N., Miura, S., Hayashi, R., and **Strober, S.** Preoperative preparation of high-risk, specifically hyperimmunized canine renal allograft recipients with total lymphoid irradiation and cyclosporine. Transplantation. 44:185-195, 1987.

185. Gaston, J.S., Bacon, P.A., and **Strober, S.** Enhancement of human T-lymphocyte growth by human transferrin in the present of fetal bovine serum. Cell. Immunol. 106(2):366-375, 1987.

186. **Strober, S.** Total lymphoid irradiation. In: Frontiers in Microbiology (Ed: Erik De Clercq), Martinus Nijhoff Publishers, Dordrecht, Belgium, pp. 165-172, 1987.

187. **Strober, S.**, Fariñas, C., Field, E.H., Solovera, J.J. Kiberd, B.A., Myers, B.D., and Hoppe, R.T. Lupus nephritis after total lymphoid irradiation: persistent improvement and reduction of steroid therapy. Ann. Intern. Med., 107:689-690, 1987.

188. Hertel-Wulff, B., Lindsten, T., Schwadron, R., Gilbert, D.M., Davis, M.M., and **Strober, S.** Rearrangement and expression of T cell receptor genes in cloned murine natural suppressor cell lines. J. Exp. Med., 166:1168-1173, 1987.

189. **Strober, S.** Total lymphoid irradiation in alloimmunity and autoimmunity. J. Pediatrics. 111(6):1051-1055, 1987.

190. **Strober, S.,** Hertel-Wulff, B., and Schwadron, R. Role of natural suppressor cells in bone marrow transplantation. Transplant. Proc. 19:88-94, 1987.

191. Hoppe, R.T., and **Strober, S.** Total lymphoid irradiation for immunosuppression. In: Innovations in Radiation Oncology Research (Eds.: H.R. Withers and L.J. Peters), Springer-Verlag, Berlin Heidelberg, Germany, pp. 113-119, 1988.

192. Gaston, J.S.H., **Strober, S.,** Solovera, J.J., Gandour, D., Lane, N., Schurman, D., Hoppe, R.T., Chin, R.C., Eugui, E.M., Vaughan, J.H., and Allison, A.C. Dissection of the mechanisms of immune injury in rheumatoid arthritis using total lymphoid irradiation. Arthritis Rheum. 31:21-30, 1988.

193. Saper, V., Chow, D., Engleman, E.D., Hoppe, R.T., Levin, B., Collins, G., and **Strober, S.** Clinical and immunological studies of cadaveric renal transplant recipients given total lymphoid irradiation (TLI) and maintained on low dose prednisone. Transplantation 45:540-546, 1988.

194. Rapaport, F.T., Meek, A., Miura, S., Hayashi, R., Arnold, A.N., and **Strober, S.** Synergistic effects of combined immunosuppressive modulation. I. Unresponsiveness to dendritic cell-depleted renal allografts in dogs exposed to total lymphoid irradiation. Transplantation. 45:682-686, 1988.

195. Adkins, B., Gandour, D., **Strober, S.,** and Weissman, I. Total lymphoid irradiation leads to transient depletion of the mouse thymic medullar and persistent abnormalities among medullary stromal cells. J. Immunol. 140:3373-3379, 1988.

196. Hertel-Wulff, B., and **Strober, S.** Immunosuppressive lymphokine(s) derived from natural suppressor cells. J. Immunol. 140:2633-2638, 1988.

197. Waer, M., and **Strober, S.** Total lymphoid irradiation. In: Kidney Transplantation: Principles and Practice, 3rd Edition (Ed: Professor P.J. Morris), W.B. Saunders Co., London, England, pp. 371-382, 1988.

198. **Strober, S.,** Farinas, M.C., Field, E.H., Solovera, J.J., Kiberd, B.A., Myers, B.D., and Hoppe R.T. Treatment of lupus nephritis with total lymphoid irradiation: Observations during a 12 to 79 month follow up. Arthritis Rheum. 31:850-858, 1988.

199. Solovera, J.J., Fariñas, M.C., and **Strober, S.** Changes in B lymphocyte function in rheumatoid arthritis and lupus nephritis after total lymphoid irradiation. Arthritis Rheum. 31:1481-1491, 1988.

200. Ermak, T.H., Steger, H.J., Owen, R.L., and **Strober, S.** Depletion and repopulation of lymphocytes in Peyer's patches of mice after total lymphoid irradiation. Laboratory Investigation, 59:591-597, 1988.

201. **Strober, S.**, and Farinas, M.C. Cellular mechanisms in immune tolerance and treatment of autoimmune disease: Studies using total lymphoid irradiation (TLI). J. Autoimmun. 1:693-702, 1988.

202. Stall, A.M., Fariñas, M.C., Tarlinton, D.M., Lalor, P.A., Herzenberg, L.A., **Strober, S.**, and Herzenberg, L.A. Ly-1 B cell clones similar to human chronic lymphocytic leukemias (B-CLL) routinely develop in older normal mice and young autoimmune (NZB-related) animals. Proc. Natl. Sci. 85:7312-7316, 1988.

203. Waer, M., **Strober S.** Allograft rejection: Total lymphoid irradiation (TLI). In, Textbook of Nephrology, Massry SG, Glassock RJ, eds. Williams and Wilkins, Baltimore, MD, pp. 1501-1505, 1989.

204. Rapaport, F.T., Meek, A.G., Hayashi, R., Sonoda, K., and **Strober, S.** Immuno-suppressive strategies for the induction of unresponsiveness to canine renal allografts. Transplant. Proc. 21:381-384, 1989.

205. Hayashi, R., Meek, A.G., Arnold, A.N., Sonoda, K., Ishimaru, M., and **Strober, S.** Synergistic effects of cyclosporine and steroid therapy in the induction of specific unresponsiveness to DLA-identical canine renal allografts. Transplant. Proc. 21:391-392, 1989.

206. Sonoda K, Meek AG, **Strober S,** Hayashi R, Ishimaru M, Rapaport FT. Synergistic efficacy of staged total lymphoid irradiation and cyclosporine in the preoperative preparation of high risk hyperimmunized canine renal allograft recipients. Transplant. Proc. 21:1116-1117, 1989.

207. Ermak, T.H., Steg, H.J., **Strober, S.**, and Owen, R.L. M cells and granular mononuclear cells in Peyer's patch domes of mice depleted of their lymphocytes by total lymphoid irradiation. Am. J. Pathol. 134:529-537, 1989.

208. Holoshitz, J., Koning, F., Coligan, J.E., de Bruyn, J., and **Strober, S.** Isolation of $CD4^+CD8^-$ mycobacteria-reactive T lymphocyte clones from rheumatoid arthritis synovial fluid. Nature, 339:226-229, 1989.

209. Trager, D.K., Bank, B.A., Rosenbaum, G.E., Holm, B.I., Shizuru, J.A., **Strober, S.**, and Fathman, C.G. Cardiac allograft prolongation in mice treated with combined post-transplantation total lymphoid irradiation and anti-L3T4 antibody therapy. Transplantation 47:587-591, 1989.

210. Fariñas, M.C., and **Strober, S.** Total lymphoid irradiation reduces IgG autoantibody production and enhances specific antibody responses in NZB/NZW F1 mice. Cell. Immunol. 121:423-432, 1989.

211. Klippel, J.H., **Strober, S.**, and Wofsy, D. New therapies for the rheumatic diseases. In, Bulletin of the Rheumatic Diseases. Arthritis Foundation. Vol 38, No. 4, 1989.

212. Schwadron, R.B., Palathumpat, V., and **Strober, S.** Natural suppressor (NS) cells derived from adult spleen and thymus. Transplantation, 48:107-110, 1989.

213. **Strober, S.**, Dhillon, M., Schubert, M., Holm, B., Engleman, E., Benike, C., Hoppe, R.T., Sibley, R., Myburgh, J.A., Collins, G,. and Levin, B. Acquired immune tolerance to cadaveric renal allografts. N. Eng. J. Med., 321:28-33, 1989.

214. **Strober, S.**, Dejbakhsh-Jones, S., Van Vlasselaer, P., Duwe, G., Salimi, S., and Allison, J.P. Cloned natural suppressor cell lines express the $CD3^+CD4^-CD8^-$ surface phenotype and the α, β heterodimer of the T cell antigen receptor. J. Immunol. 143:1118-1122, 1989.

215. Chagnac, A., Kiberd, B.A., Farinas, M.C., **Strober, S.**, Sibley, R.K., Hoppe, R.., and Myers, B.D. Outcome of the acute glomerular injury in proliferative lupus nephritis. J. Clin. Invest. 84:922-930, 1989.

216. Bass, H., Mosmann, T., and **Strober, S.** Evidence for Mouse Th1 and Th2 helper T cells *in vivo*: Selective reduction of Th1 cells after total lymphoid irradiation. J. Exp. Med., 170:1495-1511, 1989.

217. **Strober, S.** Use of total lymphoid irradiation in the treatment of severe lupus nephritis. Proceedings of the 2nd International Conference on SLE, Singapore, pp 136-140, 1989.

218. Waer, M., and **Strober, S.** Total lymphoid irradiation and organ transplantation. In: Heart and Heart-Lung Transplantation. Baumgartner WA, Reitz BA, Achuff SC eds. W. B. Saunders Co., Philadelphia, PA, pp 313-318, 1990.

219. Bass, H., and **Strober, S.** Deficits in T helper cells after total lymphoid irradiation (TLI): Reduced IL-2 secretion and normal IL-2 receptor expression in the mixed leukocyte reaction (MLR). Cell. Immunol. 126:129-142, 1990.

220. Fariñas, M.C., Stall, A.M., Solovera, J.J., Tarlinton, D.M., Herzenberg, L.A., and **Strober, S.** Ly-1 B cells and disease activity in NZB/NZW_{F1} mice: Effect of total lymphoid irradiation. Arthritis Rheum. 33:553-562, 1990.

221. Fariñas, M.C., Adkins, B., Stall, A.M., Herzenberg, L.A., Weissman, I., and **Strober, S.** B cell infiltration of the thymic medullar in NZB, NZW and NZB/NZW mice: Effect of total lymphoid irradiation. Arthritis Rheum. 33:702-710, 1990.

222. **Strober, S.**, and Holoshitz, J. Mechanisms of immune injury in rheumatoid arthritis: Evidence for the involvement of T cells and heat-shock protein. Immunol. Rev. 118:233-255, 1990.

223. Gaston, J.S.H., Solovera, J., and **Strober, S.** Recognition of self Class II major histocompatibility complex antigens by $CD8^+$ T cell clones derived from rheumatoid arthritis synovial membrane. Autoimmunity 8:115-123, 1990.

224. Fontana, E., Pantell, R.H., and **Strober, S.** Surface Plasmon Immunoassay. Applied Optics 29:4694-4704, 1990.

225. **Strober, S.** T-cell tolerance. Transplant. Proc. 23:34-35, 1991.

226. Van Vlasselaer, P., and **Strober, S.** α β TcR$^+$ CD3$^+$ CD4$^-$ CD8$^-$ cloned natural suppressor (NS) cells produce an immunosuppressive factor which is different from IFN-γ and TGF-β. Transplant. Proc. 23:200-202, 1991.

227. Hunt, S.A., **Strober, S.**, Hoppe, R.T., and Stinson, E.B. Total lymphoid irradiation for treatment of intractable cardiac allograft rejection. J. Heart Transplant. 10(2):211-216, 1991.

228. Ilano, A.L., Spinelli, A., Gurley, K.E., **Strober, S.**, and Hall, B.M. Induction of unresponsiveness to organ allografts: A comparison of different immunosuppressive protocols in DA and WF strains of rats. Transplantation 51:905-909, 1991.

229. Holoshitz, J., Kosek, J., Sibley, R., Brown, D.A., de Bryn, J., and **Strober, S.** T lymphocyte-synovial fibroblast interactions induced by mycobacterial proteins in rheumatoid arthritis. Arthritis Rheum. 34:679-686, 1991.

230. Myers, B.D., Chagnac, A., Golbetz, H., Newton, L., **Strober, S.**, and Sibley, R.K. Extent of glomerular injury in active and resolving lupus nephritis: A theoretical analysis. Am. J. Phys. (Renal, Fluid and Elec Phys) 29:F717-F727, 1991.

231. Van Vlasselaer, P., Fischer, M., **Strober, S.**, and Zlotnik, A. Regulation of thymocyte proliferation by αβ TcR$^+$ CD3$^+$ CD4$^-$ CD8$^-$ cloned natural suppressor (NS) cells. Cell Immunol.136:1-15, 1991.

232. Bass, H., Adkins, B., and **Strober, S.** Thymic irradiation inhibits the rapid recovery of Th1, but not Th2-like functions of CD4$^+$ T cells after total lymphoid irradiation. Cell Immunol. 137:316-328, 1991.

233. Van Vlasselaer, P., Niki, T., and **Strober, S.** Identification of a factor(s) from cloned murine natural suppressor cells that inhibits IL-2 secretion during antigen driven T cell activation. Cell Immunol. 138:326-340, 1991.

234. Hoppe, R.T., and **Strober, S.** Total lymphoid irradiation in the management of autoimmune diseases and organ transplantation. In, Principle and Practice of Radiation Oncology. 2nd Edition. CA Perez, LW Brady, Eds. J. B. Lippincott Company, Philadelphia, pp. 1486-1494, 1992.

235. Palathumpat, V., Dejbakhsh-Jones, S., Holm, B., Wang, H., Liang, O., and **Strober, S.** Studies of CD4$^-$CD8$^-$ αβ bone marrow T cells with suppressor activity. J. Immunol. 148:373-380, 1992.

236. Kotzin, B., and **Strober, S.** Management of systemic lupus erythematosus, polymyositis and overlap syndromes. In, Textbook of Internal Medicine, 2nd Edition, W. N. Kelley, Ed, J. B. Lippincott Co., Philadelphia, PA, pp. 1028-1032 ,1992.

237. Palathumpat, V., Holm, B., Dejbakhsh-Jones, S., and **Strober, S.**. Treatment of BCL$_1$ leukemia by transplantation of low density fractions of allogeneic bone marrow and spleen cells. J. Immunol. 148:3319-3326, 1992.

238. Waer, M., and **Strober, S.** The goal of specific immunologic unresponsiveness in clinical kidney transplantation. Seminars in Nephrology. 12:325-331, 1992.

239. Palathumpat, V., Dejbakhsh-Jones, S., Holm, B., and **Strober, S.** Different subsets of T cells in the adult mouse bone marrow and spleen induce or suppress acute graft versus host disease. J. Immunol. 149:808-817, 1992.

240. Schmidt-Wolf, ., Dejbakhsh-Jones, S., Holm, B., and **Strober, S.** T cell subset and suppressor cells in human bone marrow. Blood, 80(12):3242-3250, 1992.

241. Schmidt-Wolf, I.G.H., Liang, O., Dejbakhsh-Jones, S., Wang, H., Holm, B., Bell, R., and **Strober, S.** Homogeneous antigen receptor β chain genes in cloned $CD4^-$ $CD8^-$ αβ T cells. J. Immunol. 151:5348-5353, 1993.

242. Woodley, S.L., Gurley, K.E., Hoffmann, S.L., Nicolls, M.R., Hagberg, R., Clayberger, C., Holm, B., Wang, X., Hall, B.M., and Strober. S. Induction of tolerance to heart allografts in rats using posttransplant TLI and anti-T cell antibodies. Transplantation, 56:1443-1447, 1993.

243. Sykes, M., Sachs, D.H., and **Strober, S.** Mechanisms of Tolerance. Bone Marrow Transplantation. 1st Edition. S.J. Forman, K.G. Blume, E.J. Thomas, Eds. Blackwell Scientific Publication, Oxford. pp 204-219, 1994.

244. Dejbakhsh-Jones, S., Okazaki, H., and **Strober, S.** Similar rates of production of T and B lymphocytes in the bone marrow. J. Exp. Med., 181:2201-2211, 1995.

245. Negrin, R.S., Kusnierz-Glaz, C.R., Still, B.J., Schriber, J.R., Chao, N.J., Long, G.D., Hoyle, C., Hu, W.W., Horning, S.J., Brown, B.W., Blume, K.G., and **Strober, S.** Transplantation of enriched and purged peripheral blood progenitor cells from a single apheresis product in patients with non-Hodgkin's lymphoma. Blood, 85:3334-3341, 1995.

246. Schriber, J.R., Dejbakhsh-Jones, S., Kusnierz-Glaz, CR., Ginzton, N., Still, B., Negrin, R.S., Greenberg, P., and **Strober, S.** Enrichment of bone marrow and blood progenitor $CD34^+$ cells by density gradients with sufficient yields for transplantation. Exp. Hematol. 23:1024-1029, 1995.

247. Palathumpat, V., Dejbakhsh-Jones, S., and **Strober, S.** The role of purified $CD8^+$ T cells in graft-versus-leukemia activity and engraftment after allogeneic bone marrow transplantation. Transplantation, 60:335-361, 1995.

248. Dejbakhsh-Jones, S., Jerabek, L., Weissman, I.L., and **Strober, S.**. Extrathymic maturation of αβ T cells from hemopoietic stem cells. J. Immunol. 155:3338-3344, 1995.

249. Cheng, L., Dejbakhsh-Jones, S., Liblau, R., Zeng, D., and **Strober, S.** Different patterns of TCR transgene expression in single positive and double negative cells: Evidence for separate pathways of T cell maturation. J. Immunol. 156:3592-3601, 1996.

250. **Strober, S.**, Cheng, L., Zeng, D., Palathumpat, R., Dejbakhsh-Jones, S., Huie, P., and Sibley, R. Double negative ($CD4^-CD8^-\alpha\beta^+$) T cells which promote tolerance induction and regulate autoimmunity. Immunol. Review 149:217-230, 1996.

251. Bonello, R.S., Marcus, R., Bloch, D., and **Strober, S.** Effects of growth hormone and estrogen on T lymphocytes in older women. J. Am. Geriatrics Soc. 44:1038-1042, 1996.

252. Zeng, D., Ready, A., Huie, P., Hayamizu, K., Holm, B., Yin, D.P., Sibley, R.K., and **Strober, S.** Mechanisms of tolerance to rat heart allografts using posttransplant TLI. Transplantation 62:510-517, 1996.

253. Kusnierz-Glaz,C.R., Still, B.J., Amano, M., Zukor, J.D. Negrin, R.S., Blume, K.G., and **Strober, S.** G-CSF-induced co-mobilization of $CD4^-CD8^-$ T cells and hematopoietic progenitor cells ($CD34^+$) in the blood of normal donors. Blood, 89:2586-2595, 1997.

254. Zeng, D., Dejbakhsh-Jones, S., and **Strober, S.** G-CSF reduces the capacity of blood mononuclear cells to induce graft versus host disease: Impact on blood progenitor cell transplantation. Blood, 90:453-463, 1997.

255. Aguila, H.L., Akashi, K., Domen, J., Gandy, K.L., Lagasse, E., Mebius, R.E., Morrison, S.J., Shizuru, J., **Strober, S.**, Uchida, N., Wright, D.E., Weissman, I.L. From Stem Cells to Lymphocytes: Biology and Transplantation. Immunological Reviews, 157:13-40, 1997.

256. Wolden, S.L., Tate, D.J., Hunt, S A, **Strober, S,** Hoppe, R.T. Long-term results of total lymphoid irradiation in the treatment of cardiac allograft rejection. Int. J. Radiation Oncology Biol. Phys. 39:953-960, 1997.

257. Zeng, D., Dick, M., Cheng, L., Amano, M., Dejbakhsh-Jones, S., Huie, P., Sibley, R., and **Strober, S.** Subsets of transgenic T cells that recognize CD1 induce or prevent murine lupus: Role of cytokines. J. Exp. Med., 187:525-536, 1998.

258. García-Ojeda, M., Dejbakhsh-Jones, S., Weissman, I.L., and **Strober, S.** An Alternate pathway for T cell development supported by the bone marrow microenvironment: Recapitulation of Thymic maturation. J. Exp. Med., 187:1813-1823, 1998.

259. Amano, A., Baumgarth, N., Dick, M.D., Herzenberg, L.A., and **Strober, S.** CD1 expression defines subsets of follicular and marginal zone B cells in the spleen: β_2m-dependent and independent forms. J. Immunol., 161:1710-1717, 1998.

260. Hayamizu, K., Zeng, D., Huie, P., García-Ojeda, M., Bloch, D.A., Fong, L., Engleman, E.G., Sibley, R.K., and **Strober, S.** Donor blood monocytes but not T or B cells facilitate long-term allograft survival after TLI. Transplantation, 66:585-593, 1998.

261. Hayamizu, K., Huie, P., Sibley, R.K., and **Strober, S.** Monocyte-derived dendritic cell precursors facilitate tolerance to heart allografts after TLI. Transplantation, 66:1285-1291, 1998

262. Sykes, M. and **Strober, S.** Mechanism of Tolerance. *In* Hematopoietic Cell Transplantation. Second Edition, E. D. Thomas, K G. Blume and S. J. Forman, eds. Blackwell Science, Malden MA, pp 264-286. 1999.

263. Zeng, D., Lewis, D., Dejbakhsh-Jones, S., Lan, F., García-Ojeda, M., Sibley, R.K., and **Strober, S.** Bone Marrow $NK1.1^-$ and $NK1.1^+$ T cells reciprocally regulate acute graft versus host disease. J. Exp. Med., 189:1073-1081, 1999.

264. Hayamizu, K., Lan, F., Huie, P., Sibley, R.K., and **Strober, S.** Comparison of chimeric and non-chimeric tolerance using posttransplant TLI: Cytokine expression and chronic rejection. Transplantation, 68:1036-1044, 1999.

265. Zeng, D., Gazit, G., Dejbakhsh-Jones, S., Balk, S.P., Snapper, S., Taniguchi, M., and **Strober, S.** Heterogeneity of $NK1.1^+$ T cells in the bone marrow: Divergence from the thymus. J Immunol. 163:5338-5345, 1999.

266. Dejbakhsh-Jones, S., and **Strober, S.** Identification of an early progenitor for a pathway of T cell maturation in the bone marrow. Proc. Nat. Acad. Science USA 96:14493-14498, 1999.

267. Hayamizu, K., Zeng, D., and **Strober, S.** Donor cells that facilitate tolerance to rat heart allografts after posttransplant total lymphoid irradiation and rabbit anti-thymocyte globulin. Transplant Proc. 31:25S-26S, 1999.

268. Lan, F., Hayamizu, K., and **Strober, S.** Cyclosporine facilitates chimeric and inhibits non-chimeric tolerance after posttransplant total lymphoid irradiation (TLI). Transplantation 69:649-655, 2000.

269. **Strober, S.** Benike, C., Krishnaswamy, S., Engleman, E.G., Grumet, F.K. Clinical transplantation tolerance twelve years after prospective withdrawal of immunosuppressive drugs: Studies of chimerism and anti-donor reactivity. Transplantation. 69:1549-1554, 2000.

270. **Strober, S.** $NK1.1^+$ T cells and "natural suppressor" T cells in the bone marrow. Journal of Allergy and Clinical Immunology Suppl,. 106:S113-S114, 2000.

271. Stockerl-Goldstein, K.E., Reddy S.A., Horning, S.F., Blume K. G., Chao N.F., Hu W.w., Johnston L. F., Long, G.D., **Strober, S.**, Wong, R.M.Feiner, R.H., Kobler, S., Negrin R.S. Favorable treatment outcome in non-Hodgkin's lymphoma patients with "poor" mobilization of peripheral blood progenitor cells. Biol. Blood Marrow Transplant. 6:506-512, 2000.

272. Hayamizu, K., Yahata, H., Shinozaki, K. Tanji, H., **Strober, S.**, Asahara, T. Granulocyte colony-stimulating factor-mobilized donor monocytes facilitate heart allograft acceptance. Transplant Proc. 32:2068-2069, 2000.

273. Zeng, D., Lee, M-K., Tung, J., Brendolan, A., and **Strober, S.** A role for CD1 in the pathogenesis of lupus in NZB/NZW mice. J. Immunol. 164:5000-5004, 2000.

274. Field, E., **Strober, S.** Tolerance, Mixed Chimerism & Protection Against GVHD after TLI. Phil. Trans. R. Soc. Lond B. 356:1-10, 2001.

275. Lan, F., Zeng, D., Huie, P., Higgins, J.P., and **Strober, S.** Allogeneic bone marrow cells that facilitate complete chimerism and eliminate tumor cells express both CD8 and TCR$\alpha\beta$. Blood 97:3458-3465, 2001.

276. Lan, F., Zeng, D., Huie, P., Higgins, J.P., and **Strober, S.** Predominance of NK.K1$^+$TCRαβ or DX5$^+$TCRαβ$^+$ T Cells in Mice Conditioned with Fractionated Lymphoid Irradiation Protects Against Graft Versus Host Disease. J. Immunol. 167: 2087-2096, 2001.

277. Uhrin Z, Wang, B.W.E., Matsuda, Y., Price, J., **Strober, S.**, and Genovese, M.C. Treatment of rheumatoid arthritis with total lymphoid irradiation: Long-term survival. Arthritis & Rheumatism 44:1525-1527, 2001.

278. Dejbakhsh-Jones, S. Garcia-Ojeda, M.E., Chatterjea-Matthes, D., Zeng, D., and **Strober, S.** Clonable progenitors committed to the T Lymphocyte lineage in the mouse bone marrow; use of an extrathymic pathway. Proc. Nat. Acad. Science USA 98:7455-7460, 2001.

279. Cao, T.M., Glaz-Kusnierz, C., Valone, F., Stockert-Goldstein, K.E., Hu, W.W., Johnston, L., Blume, K.G., **Strober, S.**, Negrin, R. S. Rapid engraftment after allogeneic transplantation of density-enriched peripheral blood CD34$^+$ cells in patients with advanced hematologic malignancies. Cancer 91:2205-13, 2001.

280. Zeng, D., Hoffman, P., Lan, F., Huie, P., Higgins, J., and **Strober, S.** Unique patterns of surface receptors, cytokine secretion, and immune functions distinguish T cells in the bone marrow from those in the periphery: impact on allogeneic bone marrow transplantation. Blood. 99:1449-1457, 2002.

281. Genovese, M.C., Uhrin, Z., Bloch, D.A., Oehlert, J., Sibley, R.K., Myers, B., and **Strober, S.** Long-term followup in patients treated with total lymphoid irradiation for lupus nephritis. Arthritis Rheum. 46:1014-1018, 2002.

282. Millan, M.T., Shizuru, J.A., Hoffmann, P., Dejbakhsh-Jones, J.D., Scandling, J.D., Grumet, F.C., Tan, J.C., Salvatierra, O., and **Strober, S.** Mixed Chimerism without graft versus host disease after HLA-mismatched kidney and hematopoietic progenitor transplantation. Transplantation 73:1386-1391, 2002.

283. Lock, C., Hermans, G., Pedotti, R., Brendolan, A., Schadt, E., Garren, H., Langer-Gould, A., **Strober, S.**, Cannella, B., Allard, J., Klonowski, P., Austin, A., Lad, N., Kaminski, N., Galli, S.J., Oksenberg, J.R., Raine, C.S., Heller, R., and Steinman, S. Gene-microarray analysis of multiple sclerosis lesions yields new targets validated in autoimmune encephalomyelitis. Nature Medicine 8:500-508, 2002.

284. Hoffmann, P., Erman, J., Fathman, C.G., and **Strober, S.** Donor Type CD4$^+$CD25$^+$ regulatory T cells suppress lethal acute graft-versus-host disease after allogeneic bone marrow transplantation. J. Exp. Med 196:389-399, 2002.

285. Higuchi, M., Zeng, D., Shizuru, J., Gworek, J., Dejbakhsh-Jones, S., Taniguchi, M., and **Strober, S.** Immune Tolerance to combined Organ and Bone Marrow Transplants after Fractionated Lymphoid Irradiation Involves Regulatory NK T Cells and Clonal Deletion. J Immunol 169: 5564-5570, 2002.

286. Brendolan, A., Higuchi, M., Sibley, R. and **Strober, S.** Treatment of adjuvant arthritis with granulocyte-colony stimulating factor and peptide derived from heat shock protein 65. Cell Immunol 221:6-14, 2003.

287. Lan, F., Zeng, D., Higuchi, M., Higgins, J.P., and **Strober, S.** Host conditioning with total lymphoid irradiation and antithymocyte globulin prevents graft-versus-host disease: the role of CD1-reactive natural killer T cells. Biol Blood Marrow Transplant 9:355-364, 2003

288. Chatterjea-Matthes, D., Garcia-Ojeda, M.E., Dejbakhsh-Jones, L. Jerabek, M.G. Manz, I.L. Weissman, and **Strober, S.** Early defect in bone marrow T cell progenitors in athymic nu/nu mice. J. Immunol 171:1207-1215, 2003

289. Edinger, M., Hoffmann, P., Ermann, J., Drago, K., Fathman, C.G., **Strober, S.**, and Negrin R.S. $CD4^{+}CD25^{+}$ regulatory T cells preserve graft-versus-tumor activity while inhibiting graft-versus-host disease after bone marrow transplantation. Nature Med. 9:1144-1150, 2003.

290. Zeng, D. , Liu, Y., Sidobre, S., Kronenberg, M., and **Strober, S.**. Activation of CD1d-reactive natural killer T cells in NZB/W mice induces Th1-type immune responses that contribute to the development of lupus. J Clinical Investigation 112:1211-1222, 2003.

291. Zeng, D., Lan, F., Hoffmann, P., and **Strober, S.**, Suppression of graft-versus-host disease by naturally occurring regulatory T Cells. Transplantation 77(1):S9-S11, 2004

292. **Strober, S.**, Lowsky, R.J., Shizuru, J.A., Scandling, J.D., and Millan, M.T. Approaches to Transplantation Tolerance in Humans. Transplantation 77(6):932-936, 2004

293. Merad, M., Hoffmann, P., Ranheim, E., Slaymaker, S., Manz, M.G., Lira, S. A., Charo, I., Cook, D.N., Weissman, I.L., **Strober, S.** and Engleman, E.G. Depletion of host Langerhans cells prior to transplantation of donor alloreactive T cells prevents skin graft versus host disease. Nature Med. 10(5):510-517, 2004

294. Hueber, W., Zeng, D., Sharpe, O., Robinson, W.H., Strober, S., and Utz, P.J. Characterization of novel antigens recognized by serum autoantibodies from anti-CD1 TCR-transgenic lupus mice. Eur J. Immunol. 34:1654-1662, 2004

295. Lau, M., Vayntrub, T., Grumet, F.C., Lowsky, R., Strober, S., Hoppe, R., Larson, M., Holm, B., Reitz, B., and Borie, D. Short tandem repeat analysis to monitor chimerism in macaca fascisularis. Am J Transplant. 4(9):1543-1548, 2004

296. 296. Hueber, W., Zeng, D., Strober, S., and Utz, P.J. Interferon-a-inducible proteins are novel autoantigens in murine lupus. Arthritis & Rheum. 50(10):3239-3249, 2004

297. Ermann, J., Hoffmann, P., Edinger, M., Dutt, S., Blankenberg, F.G., Higgins, J.P., Negrin, R., Fathman, C.G., and Strober, S. Only the CD62L subpopulation of CD4+CD25+ regulatory T cells protects from lethal acute GVHD. Blood.105(5):2220-2226, 2005

298. Flores, M.G., Holm, B., Larson, M.J., Lau, M.K., Si, M-S., Lowsky, R., Rousvoal, G., Grumet, F.C., Strober, S., Hoppe, R., Reitz, B.A., and Borie, D. A technique of bone marrow collection from vertebral bodies of cynomolgus macaques for transplant studies. J. Surg Res 124:280-288, 2005.

299. Lowsky, R., Takahashi, T. Liu, Y.P., Dejbakhsh-Jones, S., Grumet, F.C., Shizuru, J.A., Laport, G.G. Stockerl-Goldstein, K.E., Johnston, L.J., Hoppe, R.T., Bloch, D.A., Blume, K.A., Negrin, R.S., and Strober, S. Host conditioning that prevents acute graft-versus host disease and retains anti-tumor activity after hematopoietic cell transplantation. New Eng. J. Med. 353:1321-1331, 2005.

300. Ojeda-Garcia, M.E., Dejbakhsh-Jones, S., Chatterjea, D., Mukhopadhyay, A., BitMansour, A., Brown, J.M.Y., and Strober, S. Stepwise development of committed progenitors in the bone marrow that generate functional T cells in the absence of the thymus. J.Immunol. 175: 4363-4373, 2005.

301. Dutt, S., Ermann, J., Tseng, D., Liu, Y.P., George, T.I., Fathman, C.G., and Strober, S. L-selectin and □7 integrin on donor CD4 T cells are required for the early migration to host mesenteric lymph nodes and acute colitis of graft versus host disease. Blood. (Manuscript in Press) 2005.

302. Takahashi, T., Dejbakhsh-Jones, S. and Strober, S. Expression of CD161 (NKR-P1A) defines of human CD4 and CD8 T cells with different functional activities. J. Immunol. (Manuscript Accepted for Publication) 2005